National Park Service
U.S. Department of the Interior

Big Bend National Park
Rio Grande Wild & Scenic River
Big Bend National Park, Texas

Big Bend National Park
Business Plan Highlights

Viewing a sunset from the Chisos Basin or floating through Santa Elena Canyon are just two of the awesome and unforgettable experiences enjoyed by thousands of visitors to Big Bend National Park each year. Few of these visitors realize the breadth and complexity of the behind- the- scenes issues faced by the park staff on a daily basis. We are involved with law enforcement, education, resource management, administration, facility management, maintenance and international relations.

This management challenge is compounded by the balancing act created by our legislative mandate: to preserve and protect this unique area, while also providing for its enjoyment by the American people.

At this dawn of the new millennium, Big Bend faces challenges unimagined by its founders more than half a century ago. Visibility impairment, diminished Rio Grande water flow, an aging infrastructure and increasing operating costs threaten the values for which your park was established.

If we are to manage these resources responsibly, we must clearly communicate to the public the challenges we face and the funding we need to meet those challenges. Together, we can help to ensure that Big Bend's sunsets and canyons will remain awesome and unforgettable into the next millennium.

Thank you for caring enough to take a closer look at Big Bend National Park.

Frank J. Deckert
Superintendent

The entire Big Bend National Park Business Plan is online:
www.nps.gov/bibe/businessplan.htm

For more information pertaining to the Business Plan:
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Design work provided by Interpretive Park Ranger Tom VandenBerg
Funding for production provided by the Big Bend Natural History Association and the Friends of Big Bend National Park.

How was this Information compiled?

This information was compiled by means of the Business Plan Initiative (BPI). The BPI was initiated in the summer of 1998 and is a unique partnership between the National Park Service (NPS), the National Parks Conservation Association (NPCA) and a consortium of philanthropic organizations led by the Kendall Foundation. The program is directed at identifying the financial and personnel shortfalls at a specific park, which is what makes the BPI so unique — the shortfalls outlined by the business plan are not generic shortfalls across the National Park Service, but instead are specific shortfalls at Big Bend National Park. The process and identification of shortfalls is completed with the help of graduate students from top MBA and public policy schools who spend their summer internship assisting park personnel to define the financial and staffing deficits.

Park Background

Big Bend State Park was authorized as a National Park on June 20, 1935 and then established and signed into law — with strong support from Franklin D. Roosevelt— on June 12, 1944, as the nation's 27th national park. Big Bend Country, as the area in the heart of a semi- arid region of West Texas has become known, takes its name from the course of the Rio Grande which makes a great bend in the southwestern portion of Texas.

Slightly larger than Rhode Island, the park comprises more than 800,000 acres (1,252 square miles). The boundary incluses 118 miles of the Rio Grande which is also the international border between the United States and the Republic of Mexico. In 1978, Congress designated a 196- mile portion of the Rio Grande, from the Chihuahua/Coahuila state line to the Terrell/Val Verde county line, as a Wild and Scenic River. The upper 69 miles lie within Big Bend National Park.

The park exhibits dramatic contrasts; its climate may be characterized as one of extremes. As a result of the range in altitude from approximately 1,700 feet along the river to 7,800 feet in the Chisos Mountains, a wide variation in available moisture and in temperature exists throughout the park. These variations contribute to the great diversity in plant and animal habitats. Unfortunately, the Park's plants and wildlife are being threatened by detrimental external factors such as the rapidly deteriorating air quality and the more recent decline in water levels in the Rio Grande.

Big Bend has national significance as the largest protected area of Chihuahuan Desert topography and ecology of the United States. The park's river, desert and mountain environments support an extraordinary richness of biological diversity and provide unparalleled recreation opportunities. Moreover, few areas exceed the park's value for the protection and study of geologic and paleontologic resources. Fossilized organisms from the Cretaceous and Tertiary periods exist in variety and abundance. Archaeologists have discovered artifacts estimated to be 9,000 years old, and historic buildings and landscapes offer graphic illustration of life along the international border at the turn of the century. Big Bend is rich in economic, cultural and military history from its extensive use by Comanches, miners, farmers, ranchers, U.S. cavalry units and Pancho Villa's revolutionaries.

Big Bend National Park was designated a Biosphere Reserve in 1976 by UNESCO under their program on Man and the Biosphere. Big Bend is one of only 250 such areas worldwide whose ecosystems are particularly well preserved.

Executive Summary

Big Bend National Park (Big Bend) and the Rio Grande Wild & Scenic River (RIGR) are located in West Texas at the 'big bend' of the Rio Grande. Big Bend is larger than the state of Rhode Island and received an average 308,000 visitors per year since 1995. RIGR is part of a valuable ecological system that represents the major riparian and aquatic habitat associated with the Chihuahuan Desert. The National Parks Conservation Association recently listed Big Bend as one of the top ten most endangered parks in the 384- unit park system.

Fund Sources: In FY2000, 68% of the park's funding came from annually recurring Operation of National Park Service (ONPS) Base funds appropriated by Congress. The remaining 32% was sourced from non- recurring accounts such as Project money (18%), Revenue income (11%) and Reimbursable accounts (3%). In addition to funds received from these sources, Big Bend benefits significantly from the contribution of volunteers, who, in 2000 contributed 45,000 hours. Using the hourly rate of $14.83 (the average wage of non- agricultural workers in the U.S. as published by the group *The Independent Sector*), the dollar value of these hours was $649,650.

Historical Funding Analysis: Since 1980, ONPS Base funding increased at a Compounded Annual Growth Rate* (CAGR) of 5.3%. When adjusted for inflation, ONPS Base funding increased by a mere CAGR of 1.5%. Moreover, most of that growth occurred between 1980 and 1984. Since 1984, inflation- adjusted funding has barely grown at all — a mere 0.4% CAGR.

Historical Funding versus Expenditure Analysis: Since 1990, Big Bend's inflation- adjusted ONPS Base funding increased $551,638. Inflation- adjusted salaries and benefits during that same period, however, increased $926,250. This $374,612 gap clearly shows that ONPS Base funding has not kept pace with the increasing personnel costs at the park − and the majority of the increase in personnel costs is a direct result of government mandates, such as the conversion to a new pension plan and the initiation of ranger salary adjustments.

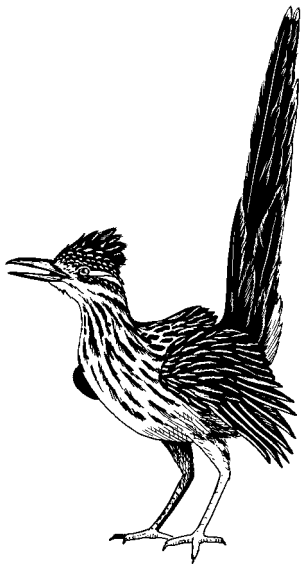
Historical Expenditures: Park operations are broken into five functional areas. In FY2000, Visitor Experience and Enjoyment accounted for 26% of total expenditures followed by Facility Operations (23%), Maintenance (20%), Management and Administration (16%) and finally Resource Protection (15%).

Financial and Staffing Shortfall:** Big Bend and RIGR have a staffing and financial shortfall of 69.5 FTEs *(18.6 non- permanent/50.9 permanent)* and $6.1 million (*$0.7 million non- permanent/$5.4 million permanent)* to meet the required operational standards. The largest shortfall was identified in the area of Resource Protection where 26.7 FTEs *(12.9 non- permanent/13.4 permanent)* and $1.8 million are needed. The park is currently 40% underfunded in FTE terms.

Investment Needs: In addition to operating needs, the park's investment needs total $33.4 million. The two functional areas with the largest investment needs are Maintenance and Resource Protection, at $19.8 million and $7.7 million, respectively.

Financial Strategies: As Big Bend's staffing size, visitation and resource threats increase, the park will have to be run more and more efficiently to accommodate the shortfall in funds. Operational as well as financial efficiencies can be achieved by instilling a business mentality in park personnel either by way of training staff in business analysis skills or by thinking 'out of the box.'

GPRA Analysis: The purpose of the Government Performance and Results Act of 1993 (GPRA) is to make government more effective and more efficient. Big Bend focuses 52% of its dollars and efforts on activities that concentrate on GPRA Goal IIA, which stresses visitor safety and enjoyment. This is followed by Goal 1A (16% of all efforts), which stresses natural and cultural preservation. The remaining 32% is distributed between seven other goals.



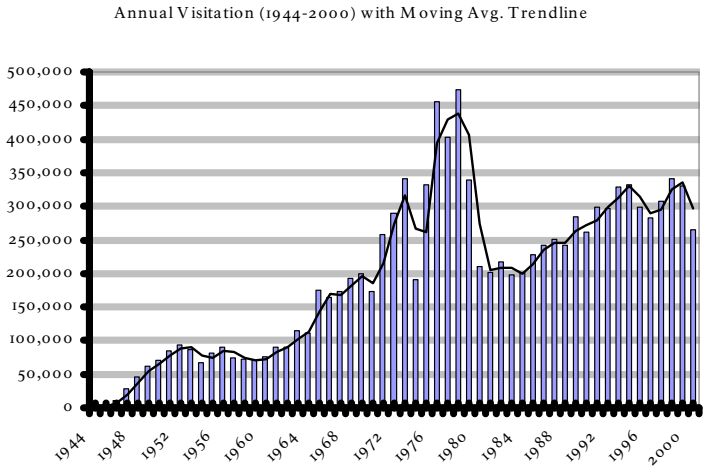
*CAGR = Compounded Annual Growth Rate is the constant yearly growth rate at which an amount grows over a specified period of time.
**FTE = One Full- Time Equivalent translates into 2,080 hours of work per year.

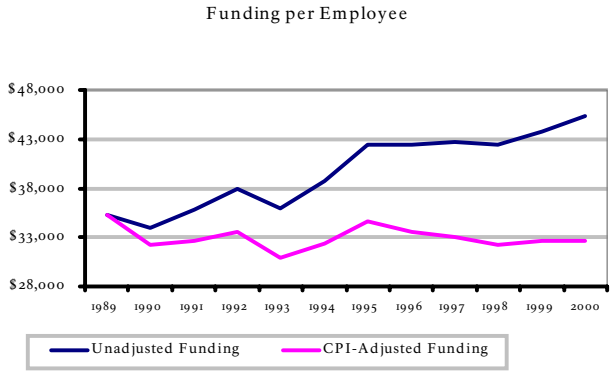
Historical Analysis

Visitation

Big Bend is a destination; not a diversion on a road trip. As a result, visitation is mostly driven by what is happening in the park. During the spring when desert flowers are in full bloom, birds migrate and temperatures are cool enough to undertake a greater number of outdoor activities, Big Bend experiences a surge in visitation from river rafters and enthusiastic botanists. In the summer when some parts of the park are too hot to visit and the depth of the Rio Grande is low enough to walk across, the park experiences a slow down in visitation.

It appears that rises in the price of gasoline *(as witnessed by the two major oil shocks in the 70s)* affect visitation at Big Bend. Furthermore, shoulder seasons are not increasing. Instead, the park's peak season is growing denser with



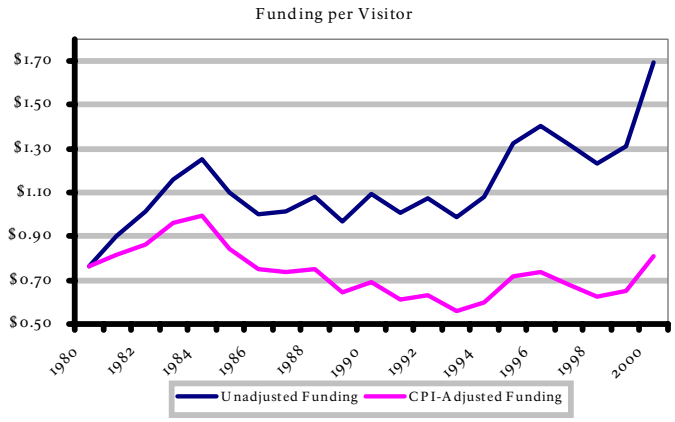


Funding Per Employee (1989- 2000)

Between 1989 and 2000, the total number of permanent full- time employees increased by 21 persons from 78 to 99. Unadjusted ONPS Base funding per employee for the same period increased $10,018, whereas CPI- adjusted funding per employee **decreased** $2,668. The Park is actually receiving fewer ONPS Base funds per employee than it did in 1989.

Funding Per Visitor (1980- 2000)

Between 1980 and 2000, unadjusted funding per visitor increased 94¢ from $0.76 to $1.70. However, CPI-adjusted funding per visitor **only** increased 5¢ from $0.76 in 1980 to $0.81 in 2000— which is still far below the 1984 level of $1.00.



Staffing Cost Increases vs. ONPS Base Funding Increases (1990 - 2000)

	Unadjusted for Inflation	Adjusted for Inflation *
Sum of Salary and Benefits Increase	$ 1,970,454	$ 926,250
ONPS Base Increase	$ 1,633,000	$ 551,638
Base Deficiency for Salary and Benefits	$ 337,454	$ 374,612

** Inflation-adjusted numbers use 1990 as a base year.*

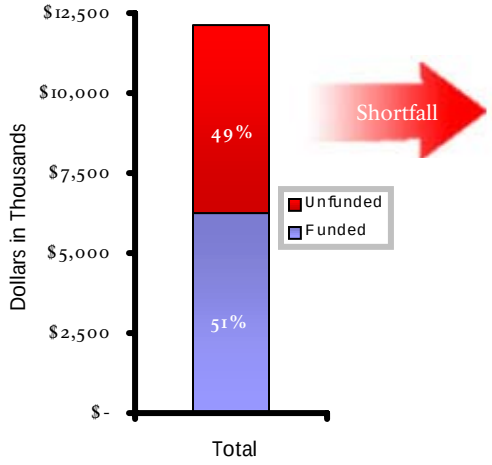
Funding versus Salaries and Benefits

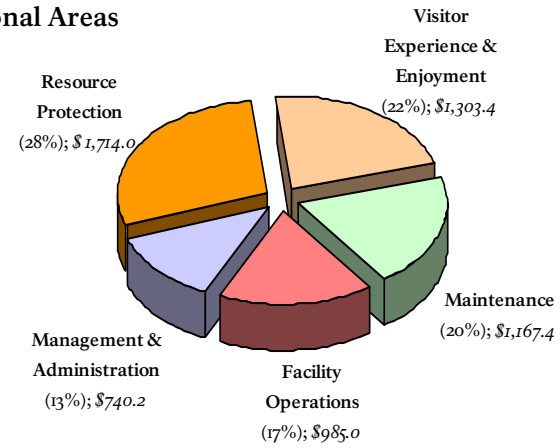
The table to the left shows how the inflation-adjusted increase in the ONPS Base budget from 1990 to 2000 clearly has not kept up with the inflation- adjusted increase in salaries and benefits for the same time period. The increase in salaries and benefits is attributable to both an increase in the salary and benefit level of the park's 84 employees in 1990 and to the additional 15 employees hired between 1990 and 2000.

Functional Area Analysis

Big Bend has many unmet operational needs. The park is 49% underfunded in dollars. Parkwide operations are heavily impacted by the presence of labor and non- labor shortfalls. These shortfalls prevent Big Bend from meeting operational standards in each functional area. According to staff members and Division Chiefs, 29% of Big Bend's operational standards in FY2000 were never met. The chart below provides an overview of the operational needs at Big Bend for each of the five functional areas.

Unfunded Operational Needs of All Five Functional Areas





The table below explains the five functional areas' shortfalls in more detail.

	AVAILABLE		Detailed FTE Shortfall Breakout		SHORTFALL / (SURPLUS)				REQUIRED	
Functional Area	FTE	Total	*Non-Perm*	*Perm*	FTE	*Labor $*	*Non-Labor $*	Total $	FTE	Total $
Resource Protection	16.01	$ 958,781	*12.89*	*13.77*	26.66	$ *1,429,888*	$ *284,150*	$ 1,714,038	42.67	$ 2,672,819
Visitor Experience and Enjoyment	25.48	$ 1,636,626	*3.26*	*15.07*	18.33	$ *996,161*	$ *307,205*	$ 1,303,366	43.81	$ 2,939,992
Facility Operations	25.06	$ 1,413,980	*0.00*	*6.44*	6.44	$ *233,981*	$ *751,003*	$ 984,984	31.50	$ 2,398,964
Maintenance	14.81	$ 1,262,112	*2.27*	*4.39*	6.66	$ *298,007*	$ *869,385*	$ 1,167,392	21.47	$ 2,429,504
Management and Administration	16.00	$ 967,156	*0.23*	*8.69*	8.92	$ *606,169*	$ *134,000*	$ 740,169	24.92	$ 1,707,324
TOTAL FOR BIG BEND	97.36	$ 6,238,655	*18.65*	*48.36*	67.01	$ *3,564,206*	$ *2,345,743*	$ 5,909,949	164.37	$ 12,148,604
Rio Grande Wild and Scenic River	**2.02**	**$ 124,352**	***0.00***	***2.54***	**2.54**	$ *149,325*	$ *14,900*	**$ 164,225**	**4.56**	**$ 288,578**
TOTAL FOR BIG BEND and RIGR	99.38	$ 6,363,008	*18.65*	*50.90*	69.55	$ *3,713,531*	$ *2,360,643*	$ 6,074,174	168.93	$ 12,437,182

Top 7 Operational Funding Priorities at Big Bend National Park

Functional Area	Project Description	Annual Cost
Facilities Maintenance	Improving Preventative Maintenance Capabilities	$ 336,000
Management and Administration	Improving Management Capabilities and External Partnering	$ 120,000
Resource Protection	Protection Funding for Harte Ranch Addition	$ 326,000
Resource Protection	Protection Funding for Diverse Ecosystems	$ 100,000
Resource Protection	Protection Funding for Threatened and Endangered Species	$ 160,000
Visitor Experience and Enjoyment	Increasing Border Law Enforcement Capabilities	$ 296,000
Visitor Experience and Enjoyment	Strengthening Encumbered Interpretive Visitor Services	$ 292,000
	Total Annual Cost	**$1,630,000**

Top 6 Investment Priorities at Big Bend National Park

Priority	Project Description	Cost
1	Construct Research Center and Curatorial Facility	$ 1,850,000
2	Replace and Upgrade Chisos Basin Sewage Treatment Plant	$ 2,200,000
3	Redesign and Rehabilitate the Chisos Basin Campground	$ 3,167,000
4	Relocate Underground Primary Power to Chisos Basin Area	$ 1,225,000
5	Upgrade Panther Junction Water System	$ 2,407,000
6	Upgrade Rio Grande Village Water Treatment System	$ 1,427,000
	Total	**$11,776,000**

Big Bend in the Spotlight: Air Quality

In spite of Big Bend's remote location and presumed immunity to such urban problems as air pollution, noticeable changes in the park's air quality appeared during the 1970s. After years of data collection and analysis since 1978, researchers are now able to interpret the transport and transformation of pollutants that contribute to the park's reduced visibility. North Central Mexico, East- Central Texas, the Ohio River valley and Mexico City are some of the major sources that contribute to Big Bend's visibility pollution.

Air quality in this area varies significantly by season, with the summer season typically having the poorest visibility and winter season the best.

These pictures show the same view under good and bad air quality conditions.

On some days of the year Big Bend's air quality is so good that visitors can actually see the detail of large objects more than 100 miles away. Generally however, park visitors find moderately hazy views on most days, with poor conditions of less than 30 miles visibility. On a few days of the year Big Bend experiences the worst air quality, in terms of visibility impairment, within any western national park.

To adequately fund the air quality management program, Big Bend requires an additional 0.93 FTE's and $44,924.